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ABSTRACT

GRADES OR AGES: Grades 4-6. SUBJECT MATTER: First aid and survival education. ORGANIZATION AND PHYSICAL APPEARANCE: The guide is divided into seven sections: introduction to first aid; wounds and control of minor bleeding; respiratory emergencies and resuscitation; poisoning; traumatic shock; and injuries from abnormal conditions. The publication format of four columns gives the outline of content, the major understandings and fundamental concepts, suggested teaching aids and learning activities, and supplementary information for teachers. The course objectives are presented in the introduction. The guide is soft covered. OBJECTIVES AND ACTIVITIES: Each subsection contains questions and topics for discussion. The supplementary information provides teachers with further discussion material. INSTRUCTIONAL MATERIALS: Lists of multimedia resources are presented for teachers and students. Information on the procurement of audiovisual aids, mannequins, teaching kits, and pamphlets is also included. STUDENT ASSESSMENT: No provision is made. OPTIONS: The guide is suggestive only. (BRB)

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STRAND V

EDUCATION FOR SURVIVAL

FIRST AID AND SURVIVAL EDUCATION

Grades 4, 5, 6

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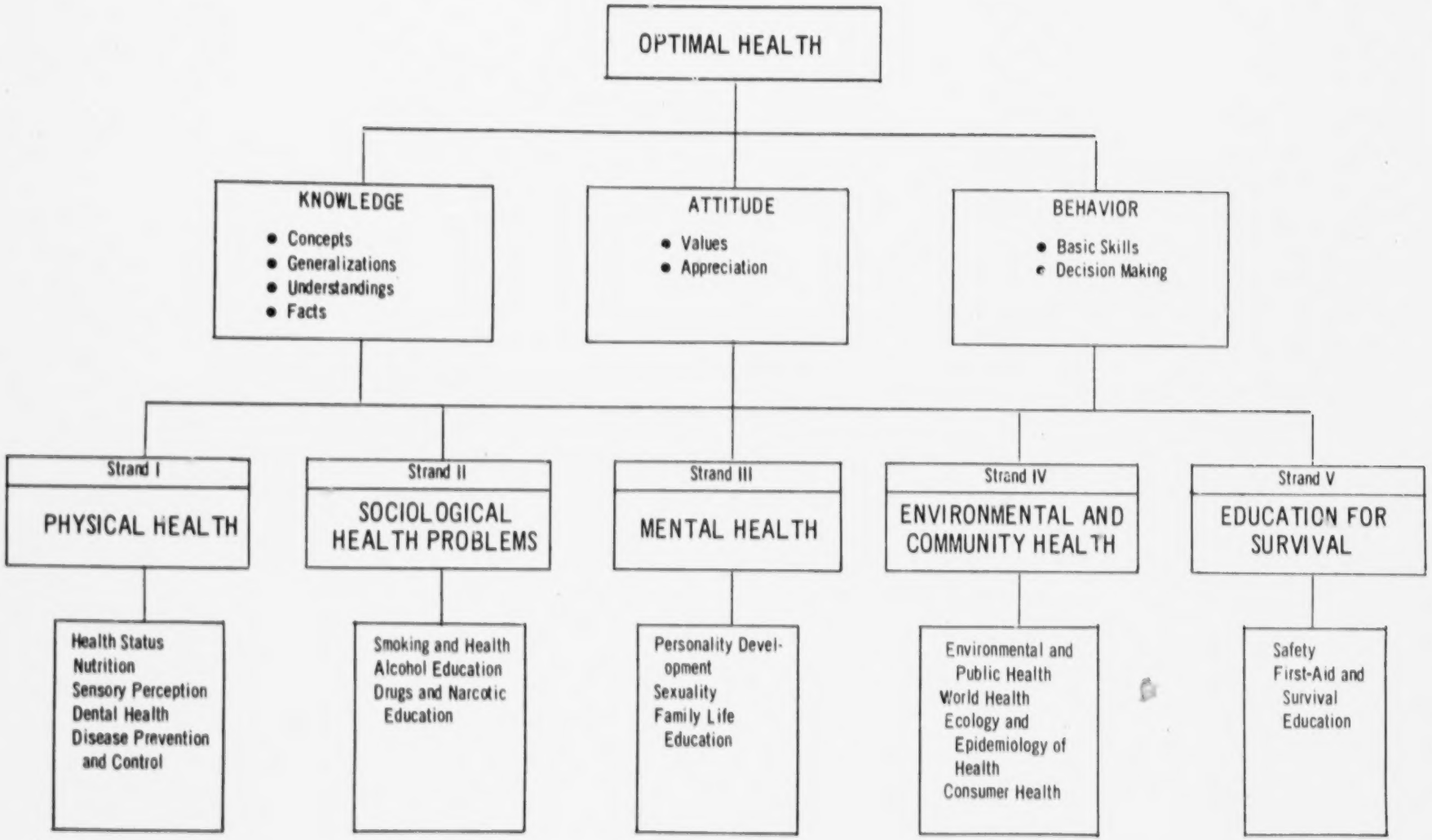
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STRAND V

EDUCATION FOR SURVIVAL

FIRST AID AND SURVIVAL EDUCATION

GRADES 4, 5, 6

OVERVIEW

First aid education is essential for every American. The knowledge of first aid may someday make it possible for a person to save a life. This life may be that of a stranger or of a person who is very dear. In some cases the life he saves may be his own.

First aid education makes it possible for the individual to deal with the many health emergencies that occur in everyday living. It helps him to meet these health emergencies without confusion or panic, until professional aid becomes available.

All teachers involved with this course should hold a standard and advanced Red Cross first aid card or its equivalent. The practical work in the Red Cross first aid courses should be of particular value to the teacher in deciding how to handle class practice and demonstrations.

STRAND V

EDUCATION FOR SURVIVAL

FIRST AID AND SURVIVAL EDUCATION

GRADES 4, 5, 6

OBJECTIVES

Pupils in grades 4, 5, and 6 should:

- develop an appreciation of first aid measures as a means of saving lives and minimizing disease and injury.
- develop an awareness that immediate action in calling for professional help can be vital.
- know which person or agency is equipped to provide the help needed and how to obtain it.
- develop a feeling of confidence rather than fear in administering first aid.
- develop competency in using first aid kits and equipment.
- know about respiratory emergencies and develop competency in the administration of the various methods of artificial respiration.
- know about the various kinds of wounds and develop competency in controlling bleeding.
- know about the various kinds of shock and the first aid procedures to follow for each type.
- know about the various kinds of poisons that affect the body and the first aid procedures to follow.
- understand how elementary school children can prevent accidents from occurring.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Introduction to First Aid	First aid involves immediate temporary care and not treatment.	What is first aid? What is the difference between first aid and treatment?	
A. Definition	First aid is the immediate and temporary care given to an injured or sick person until the services of a physician can be obtained.		
B. Values of first aid training	Having knowledge of first aid will give the student a feeling of some competency to care for himself and others and will serve to make him aware of preventable safety problems.		The pupil can care for his own injuries and the injuries of others. He is helped to improve his safety consciousness which aids in the prevention of accidents. First aid can be extremely valuable during catastrophes, such as wars, floods, hurricanes, earthquakes, and tornadoes.
C. General procedures to follow in first aid emergencies	The first aider should function in a logical and systematized way rather than in a state of panic and disorganization. Learn the meaning of panic.	Describe several accident situations and discuss with pupils the general first aid procedures that should be followed in each case. Example: A man has just been hit by a car. He is lying in the street and a large crowd is beginning to form around him. As a first aider, what would you do to help	Factors that should be considered include: . determining the victim's injuries . determining what injuries should be dealt with first . getting the victim's name and address . carrying out the determined procedures . securing necessary help . protecting victim from further harm

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		this man? Point out that securing necessary help is vital. Call for professional help as soon as possible.	. psychological reassurance for victim . dealing with external factors of weather, traffic, crowds, etc.
		Show McGraw-Hill filmstrip Your Responsibilities in First Aid. An introductory film to first aid also may be shown, such as the American Red Cross films, Checking for Injuries and The How and Why of First Aid.	The following bibliographical sources may be checked for further information: Cole, pp. 1-16, and Henderson, pp. 34-56
		Discuss the consequences that might occur if it were proven that a first aider did something that further injured the victim.	It is best to summon medical help immediately and keep the victim comfortable.
		Panic can be worse or as bad as an injury. Keep yourself and the injured person calm. Encourage others to do the same. Discuss possible injurious results of panic. Act out in simple skits.	A first aider might find himself in a lawsuit if he negligently and carelessly administered first aid which resulted in injuries or aggravation of the original injury. See bibliography: Gold and Gold: "First Aid and Legal Responsibility," Jan., 1963.
		If an injured person is found unconscious keep him lying on his side so	

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		that his tongue does not fall back in his mouth to choke him. Move him as little as possible. Call for professional help.	
D. First aid kits and materials	First aid kits should be available in situations where accidents are likely to occur. Very often the first aider must improvise with available materials.	Have several kits available to show to pupils. Show and discuss the contents of each kit. Have pupils report on the first aid supplies they have in their homes. Have the pupils make first aid kits for the home, car, and one for camping trips. Wooden boxes 3" x 5" x 2" may be constructed to house these kits. Make a list of possible kit items (at right), and discuss this list with your school nurse teacher. Discuss materials that might be available when there is no first aid kit for supplies.	Contents of kits usually include adhesive compresses, bandage compresses, plain gauze pads, gauze roller bandages, eye dressing packets, plain absorbent cotten, triangular bandages, tweezers, and scissors, antiseptic soap (containing hexachlorophene), aspirin, elastic bandages 3" wide, and safety pins.
II. Wounds and the Control of Minor Bleeding		It is vital to keep wounds clean. Wash with soap and water if possible.	First aid for wounds varies according to the nature and possible results of each.

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		Show filmstrip and record The History of Nursing - Florence Nightingale, Metropolitan Life, to show the importance of cleanliness. Restate that it is most important to get professional help. At home have a telephone list posted including: . family doctor . nearest poison control center . pharmacist's night number . police . fire You could make this list on oak tag as a present for your parents.	
A. Wound defined	A wound is a break in the skin or in the mucous membrane lining one of the body cavities.	Elicit children's definitions of a wound.	
B. Kinds of wounds	There are several different kinds of wounds. Each type has specific characteristics with which the first aider should be familiar.		

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1. abrasion	An abrasion is an irregular, superficial, open wound of the skin in which the outer layers are scraped off.	Discuss the kinds of accidents that produce this kind of injury.	There is relatively little bleeding. Scraping of the skin on mats, floors, or concrete would produce an abrasion.
2. incised wound	An incised wound is a clean, sharp cut in the skin which may involve capillaries, veins, or arteries.	Discuss the kinds of accidents that produce this kind of injury.	These wounds are produced by objects such as glass, razors, and knives. They usually appear as straight lines and may bleed profusely.
3. puncture wound	A puncture wound is a deep penetration of the skin which is caused by such objects as bullets, knives, nails, and ice picks.	Discuss the kinds of accidents that produce this kind of injury.	Large, irregularly shaped or deeply imbedded splinters are an example of a puncture wound. A major danger of this kind of wound is tetanus which is a severe form of infection. Other forms of infection are also a danger.
4. laceration	A laceration is a wound in which there is a jagged, ragged tearing of the tissues.	Discuss the kinds of accidents that produce this kind of injury.	This type of wound is usually produced by tearing the skin on a nail or piece of metal, or being involved in a car accident. They also occur quite frequently in industry. Bleeding and/or infection are dangers associated with lacerations.

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5. contusion	A contusion is a wound which is commonly referred to as a bruise and occurs when tiny blood vessels are broken by a hard blow or fall.	Discuss the kinds of accidents that produce this kind of injury.	Examples include black and blue marks on the body and the black eye. The clot changes in color due to the new blood coming into the area and the blood clot gradually being absorbed.
C. Dangers of wounds	The dangers of wounds include loss of blood, infection, and tetanus.	Use the American Red Cross film, Wounds.	The general first aid procedures for all wounds are: 1. prevent contamination 2. provide protection 3. control bleeding, if necessary
1. infection	All wounds are subject to infection because broken skin permits entry of microorganisms. Thorough cleansing of the area around the wound is the first aid objective for preventing infection. First aid for infected wounds includes sterile wet compresses and inactivity of the part.	Soap and water cleansing is best. If soap contains hexachlorophene, it can be helpful if use is repeated. Wash AROUND wound. Alcohol or iodine can be used to cleanse AROUND wound to prevent bacteria from multiplying. Cover with clean gauze. If wound is serious, get professional help. Some bleeding helps to clean the wound. The body will provide help for its own healing if we cooperate. Strong antiseptics on wounds kill tissue. This area is then a place for bacteria to multiply, for it is defenseless with no	Bacteria found on the skin or the object that caused the wound may cause the infection to develop. Signs of infection include redness, swelling of the area, pains, pus, fever, and enlarged glands (in the neck, under the arm-pit, or in the groin, depending on where the infection is located). Cleanse the area thoroughly using soap and water and apply a sterile dressing or a Band-Aid. In an emergency situation, any type of clean cloth may be used for a dressing.

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		help from body cells.	Physical activity favors the spread of infection.
		The loss of a first tooth can leave a kind of wound in the mouth. A certain amount of bleeding will occur. Rinse mouth with clean water. Use slightly warm water with a little salt added if you can. Keep your hands out of your mouth.	
		A scab forms to help keep out infection. Pulling it loose can allow infection to enter the wound. If bandage is stuck, soak it with hydrogen peroxide (H_2O_2 Solution 3%) to soften scab for less damage to wounded area.	Infected wounds should have medical care.
2. tetanus	Tetanus must be considered a danger in <u>all</u> wounds.	Almost all children have had antitetanus shots. This is not always true for adults.	Tetanus or lockjaw if caused by the organism Clostridium Tetani. It multiplies where there is little or no oxygen. The toxins produced by the organism affect the central nervous system producing muscle spasms and convulsion. The victim has difficulty opening his jaws and spasm of the facial muscles often causes a fixed smile
		Report a wound from rusty metal objects to an adult in charge immediately. Nails, splinters, and gardening tools can be a dangerous source of tetanus or lockjaw because of the presence of	

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		manure in soil.	and elevated eyebrows. During convulsions, the rigidity of the chest wall interferes with respiration causing asphyxia, which may lead to death. Immunization against tetanus is the best method of protection.
3. severe bleeding	Control of severe bleeding commands urgent attention. The first aid objective is to stop the bleeding at once.		Rapid or extensive loss of blood can severely affect all body functions; therefore, the control of severe bleeding is one of the most urgent procedures of first aid.
	Application of pressure is recommended as the safest and most effective method for controlling bleeding.	Demonstrate pressure methods of controlling bleeding. 1. Direct pressure - preferably using a sterile or clean folded cloth over the wound, apply firm and steady pressure with the hand. 2. Pressure dressing - Folds of clean cloth may be held firmly against the wound with a bandage. 3. Pressure points - Press with fingers or heel of the hand to hold the supplying blood vessel against	Adults can readily overcome the loss of a pint of blood but the loss of a quart may be a serious matter. The American Red Cross recommends only two points on each side of the body to use as pressure points. They are the brachial artery on the inner half of the arm, midway between the elbow and armpit. Pressure against the main vessel and bone there diminishes bleeding in the upper extremity below the point of pressure. Pressure against the femoral artery

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		the underlying bone. If bleeding is excessive, call for professional help as soon as you can.	and bone just below the groin on the front, inner half of the thigh diminishes bleeding in the extremity below the point of pressure.
	An improperly used tourniquet can cause serious injury.		
	A tourniquet should be used only as a last resort.	This decision should be made by a professional person only.	The tourniquet should be used only when the decision has been made that it may be necessary to sacrifice a limb to save a life. Tissue damage resulting in gangrene may result from indiscriminate use of a tourniquet, and fatal shock has been attributed to effects resulting from release of the tourniquet. A tourniquet should be used only by persons who are aware of the dangers associated with its use.
D. First aid for wounds requiring special attention			
1. animal bites	There is always the danger of infection and rabies whenever an animal bite is involved.	Discuss types of wounds that may be associated with animal bites; i.e., puncture, laceration, bruise, etc.	Any warm-blooded animal that is infected with rabies can transmit the disease to humans through any break in the skin. Animals that frequently bite humans include cats, dogs, rats, rabbits, bats, squirrels, and raccoons.

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		Assign library projects to determine . what hydrophobia (rabies) means . how it affects the human body . treatment . whom to contact following animal bites (police and local health department)	Rabies is almost invariably fatal to humans unless there is prompt treatment. Since the bites of animals always present the danger of rabies, an animal involved in biting a person should never be killed. Authorities should catch the animal and retain it for observation. Untrained or inexperienced people should not attempt to capture a dog that has bitten someone.
	Medical attention should always be sought following animal bites.	Show filmstrip and record, Louis Pasteur, The Germ Theory (Metropolitan Life). Have group do research as to what Pasteur did in helping rabies victims.	The wound should be cleansed thoroughly and covered as soon as possible.
2. nosebleeds	Nosebleeds are usually not serious unless they are profuse or prolonged. Most minor nosebleeds can be controlled by having the victim sit down, tilt his head backward, and breathe through his mouth.		Nosebleeds may occur spontaneously or as a result of injury. If a nosebleed is not brought under control within a reasonable period of time, a physician should be consulted.
3. eye injuries	The eyes are very delicate organs and any injury to them must be brought to the attention of a physician immediately.	Discuss with students the kinds of accidents that produce wounds of the eye. Draw diagrams of parts of the eye. Label them.	Automobile accidents and athletic injuries frequently involve the eye. Children are sometimes hit in the eye with rocks or poked in the eye with pencils and

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		Discuss special areas, such as shops, science laboratories, and physical education spaces, where accidents might, most likely occur. Discuss safety procedures to follow to avoid such accidents.	other sharp objects.
	Prior to receiving medical attention, the injured eye should be covered with a sterile or clean cloth patch.		The eye should be covered with a loose sterile dressing and the victim should receive medical care as soon as possible. Cover both eyes to prevent movement of injured as well as uninjured eye.
III. Respiratory Emergencies and Resuscitation	Respiratory emergencies must be dealt with immediately in order to save the person's life.	Have some students report on the basic anatomy and physiology of the respiratory system and the basic principles of the respiratory process. For information on the respiratory system read: Henderson, op. cit., pp. 7-9. American Red Cross. Textbook for Juniors. op. cit., Chapter 6.	Respiratory emergencies involve respiratory obstruction, the cessation of breathing, and the mechanical interference with respiration. Factors that will cause a stoppage of breathing include objects becoming stuck in the wind pipe, electric shock, carbon monoxide, and other gas poisoning, compression of the chest by a cave-in, and prolonged exposure to the cold.

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A. Common first aid emergencies involving the stoppage of breathing	Many types of emergencies result in an insufficient supply of oxygen to breathe.	Discuss some of the objects that might cause respiratory obstruction - toys, food, pins, etc. A fish or chicken bone lodged in the throat can be a serious problem. Have the person eat dry, unbuttered bread. Call for professional help immediately.	Stoppage of breathing may result from a concussion of the brain, a fracture of the skull, certain types of neck fractures, electric shock, certain drugs (especially the narcotics and sleeping pills composed of barbiturates), lack of oxygen in the air, toxic gases (carbon monoxide), and heart disease.
B. Symptoms of an insufficient supply of oxygen	The major symptom associated with an insufficient supply of oxygen is blueness of the skin.		The victim's head is thrown back, the eyes bulge, and his face becomes bluish-red in color. The person struggles to get air.
C. Objectives of first aid for respiratory emergencies	The two major objectives of first aid for respiratory emergencies are: 1. to maintain open air passages 2. to get air into the lungs	Discuss the need to: 1. begin immediately to get oxygen into the body to prevent brain damage 2. be persistent; don't give up too soon 3. secure professional help as soon as possible.	Achievement of the major objectives is attempted through: 1. checking the nose, mouth, and throat for foreign objects 2. positioning the patient with neck hyperextended to maintain an open airway 3. forcing a flow of air into and from the lungs by mechanical action that stimulates the function of the respiratory muscles.

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D. Mouth-to-mouth breathing	The mouth-to-mouth method of rescue breathing is recommended by the American Red Cross because it has many advantages over other methods.	Show how to clear a person's mouth of foreign objects before starting artificial respiration. Demonstrate the mouth-to-mouth method of giving artificial respiration on the Resusci-Anne or Tammi inflatable mannequin. Consult film listing at end of the unit for films on mouth-to-mouth resuscitation.	This technique of artificial respiration is the most practical method for emergency ventilation. Regardless of the cause of the cessation of breathing, it may be used on an individual of any age who has stopped breathing in the absence of equipment or of help from a second person. See New York State Health Department pamphlet "Rescue Breathing" for procedure.
E. Manual methods of artificial respiration	Manual methods of artificial respiration require considerable strength and endurance when applied for long periods.		Pupils in grades 4, 5, and 6 should not be expected to use these methods as easily or as skillfully as they can employ rescue breathing techniques.
IV. Poisoning			
A. Poison defined	A poison is any substance which, when taken into the body, will produce an injurious or deadly effect. Poisoning can be intentional or accidental.		Poisoning can result from taking an overdose of medicine; being bitten by snakes, insects, and marine life; inhaling poisonous gases; eating toxic foods; and attempting suicide.
		Have students list some products commonly found around the home that	Many useful common products contain poisonous substances.

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		contain poisonous substances. Places to consider are: 1. the medicine cabinet 2. under the sink 3. the garage 4. outside the house	
B. Effects of poisons	The effects of poisons upon the body depend upon the type, the quantity consumed, and the age and physical condition of the victim. The two dangerous general effects of oral poisons are that they burn the tissues of the digestive organs and are absorbed into the system from the digestive tract.	Show a film on poisoning, such as Poisons in the House, which is produced by Association Films, or Children at Play with Poison, which is produced by Creative Arts Studio, Inc., or Poisoning from the American Red Cross. Show slides Keep Out of the Reach of Children by the Food and Drug Administration. Do a report on the responsibility of older children in regard to preventing accidental poisoning of younger children. Refer to Alcohol and Drug Education in Strand II.	Poisons can be grouped, depending on their physiological action, into four groups including corrosives, irritants, neurotoxins, and hemotoxins. Corrosives include strong acids and alkalies. They cause a local destruction of the tissues with which they come in contact. Irritants are those which produce congestion of the organ with which they come in contact. The effect that the poison ivy leaf has on the skin is a good example of an irritant. Neurotoxins include the narcotics, barbiturates, alcohols, and anesthetics. They affect the nerves or some of the basic processes within the cell.

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			Hemotoxins, such as carbon monoxide and hydrogen cyanide, combine with the blood and prevent oxygen from forming hemoglobin.
C. General signs and symptoms of poisoning	The symptoms and signs of poisoning vary greatly, depending upon the amount of poison ingested and the time elapsed since ingestion.		Many poisons cause no symptoms until absorbed into the system. General signs to look for include the odor of poison on the person's breath, a discoloration of the lips and mouth, bottles or packages of drugs or poisonous chemicals near the victim, pain or burning sensation in throat, puncture wounds resembling a snake bite or other kind of bite, abdominal pain, vomiting, visual disturbances, headache, mental confusion, hallucinations, convulsions or a deep sleep, and evidence in the mouth of eating wild berries or leaves.
D. First aid for poisoning due to chemicals	First aid for oral poisoning must be immediate to prevent absorption of the poison into the blood stream.		
1. general objectives of first aid for poisoning	The general objectives of first aid procedures are: 1. dilute the poison		Water is usually the most readily available substance for dilution. Several

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	2. eliminate the poison (except as noted) 3. neutralize it if elimination is not possible		glasses of it should be given in the dilution procedure. An important procedure in many cases is to induce vomiting to eliminate the substance. When the poisonous substance was strong enough to burn the tissues going down, it will burn again coming up and vomiting should not be induced in such cases! An attempt should be made to neutralize such substances.
2. special procedures	Some poisons require special first aid procedures.	Discuss how to determine what substance has been taken; i.e., lips and mouth, the container, sudden onset, victim might say so, etc. Discuss the incidence of childhood poisoning by: aspirin, lead products, insecticides. Elicit several rules for prevention of poisoning. 1. Keep poisons out of reach of children. 2. Label products carefully and correctly. 3. Read labels carefully. 4. Separate poisonous substances from others.	A strong acid should be neutralized with an alkali; milk of magnesia or baking powder solution. A strong alkali should be neutralized with an acetic substance such as lemon juice or vinegar. Other cases when vomiting should <u>not</u> be induced include poisoning by strychnine (used in rat poisons) kerosene, or if the victim is unconscious. In such cases, keep the patient warm and get medical help immediately.

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		5. Discard unused medicines. 6. Never leave medicine at the bedside of a sick person. 7. Put transparent tape over labels so the writing stays clear.	
3. the container	The container of the poisonous substance can provide valuable clues. Learn the meaning of antidote.	Ask students to check the information listed on products commonly found around the home. Ask about types of ingredients in the product, precautions for use, and directions for first aid. Copy labels of common household poisonous substances. Arrange labels on bulletin board making note of the antidote for each. Call for professional help quickly. Remember the name of the poison. Keep the container if possible and show it to the doctor.	Many products list an antidote to be given in case of accidental poisoning. The universal antidote can be given when a specific one is not known. It consists of one part each of strong tea and milk of magnesia combined with two parts of burnt toast. Substances that coat the linings of the digestive organs to reduce intestinal absorption include milk, olive oil, salad oil, mineral oil, and egg white.
4. poison control centers	Poison control centers are available in many areas.	Have students find out where poison control centers in their area are located.	Poison control centers list many commonly used products and can recommend the specific antidote to give for each.

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E. Emergencies caused by poisonous bites or stings	Many types of organisms produce venom or other irritating substances that may create an emergency requiring first aid.	Assign special research projects on poisonous snakes, insects, and marine life. Ask for distinguishing characteristics of species which are hazardous or toxic to humans.	Bites of snakes, bees, wasps, hornets, spiders, scorpions, caterpillars, moths, stingrays, salt-water catfish, and jelly-fish may produce varying degrees of poisoning of the body.
1. snake bites	The fang and tooth marks of poisonous and non-poisonous snakes are distinguishable.	Show pictures of different kinds of snakes. Make a diagram on the bulletin board of the wounds caused by venomous and nonvenomous snakes. Have a committee report on poisonous varieties and where they are located in the United States. Show on a map with key as to areas where poisonous snakes are found. Do the same with a world map if it is appropriate for group.	The wound caused by a veneomous snake is distinguished by one or two distinct puctures by the fangs. venomous nonvenomous
a. nonvenomous snakes	The bite of a nonvenomous snake produces a physical reaction in the area of the bite.		The physical reaction to a nonvenomous snake bite is localized slight burning and swelling at the site of the wound. No general reaction usually develops except, perhaps, an emotional one. However, you should consult your family doctor.

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b. venomous snakes	The venom of poisonous snakes spreads throughout the body by the circulatory system and affects the body's vital processes.	Discuss the symptoms that occur with interference with the body's systems: shortness of breath, nausea, and vomiting, weak and rapid pulse, dimness of vision, and unconsciousness.	There are four kinds of poisonous snakes in the United States including the rattlesnake, copperhead, cottonmouth moccasin, and the coral snake. The first three are known as pit vipers and have a pit on each side of the head between the eyes and the nostrils. Their venom affects the circulatory system. The venom from the coral snake is extremely toxic and affects the nervous system. Most snake bite fatalities in this country are caused by rattlesnakes since man has greater chance of contact with this snake.
c. first aid for snake bites			
1. nonvenomous snakes	Nonvenomous snake bites should be treated as ordinary puncture wounds.	Review the objectives for treating simple wounds.	
2. venomous snakes	The objective of first aid in case of a bite by a venomous snake is to slow down the absorption of the venom into the system until medical help can be secured.	Discuss with students steps that can be taken to prevent being bitten by snakes.	First aid involves having the person stop physical activity immediately and rest. Put a constriction band around the extremity just above the bite tight enough to slow the flow of blood in the surface

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			vessels (veins). The victim should be taken to a hospital as soon as possible so that he can get the needed treatment.
2. Insect bites	Bites and stings of insects can be dangerous to individuals who are sensitive to the injected poison.	Discuss prevention of insect bites through the use of insect repellants and other precautionary measures. Individual pupils may be interested in researching and reporting on poisoning by the: Black widow spider Brown recluse spider Jellyfish Portugese Man O'War Scorpion Stingray (Whip ray) Tarantula These reports may be assigned to pupils whose families vacation in areas where these creatures are found.	In a nonsensitive individual, a bee sting may produce painful swelling with redness, aching, and itching. Severe hives and generalized swelling of the tissues may result if the person receives several bites at one time. In the severely allergic individual, a bee sting may make the person desperately ill requiring emergency treatment to save his life. According to the American Medical Association, the venom of these stinging insects causes more deaths each year than are caused from bites of rattlesnakes. Death occurs from respiratory obstruction caused by swelling of the vocal cords or by severe constriction and congestion of the bronchial tubes resulting in shock.

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a. first aid for persons not sensitive to insect bites and stings	First aid measures for insect bites for non-sensitive persons consists of relieving itching and pain.	Wash area very well with soap and warm water. If sensitivity is suspected, call for medical help. Use pamphlets, The Fly and The Mosquito (N. Y. State Department of Health), to discuss insect elimination by cleanliness.	Application of a paste of baking soda, cold cream, calamine, or ice water relieves pain and itching.
b. first aid for persons sensitive to insect bites and stings	A person known to be sensitive to insect bites and stings should secure preventive medical advice.	Use filmstrip and record Walter Reed (Met. Life) for the history of the scientific method in the control of yellow fever. Do a report on the anopheles mosquito and malaria.	The American Medical Association has suggested that persons known to be sensitive to insect bites wear an identification tag to inform others in case they are bitten or stung. Pending medical care, absorption of the poisonous substance can be retarded by a tight constricting band if the wound is on an extremity. Ice applied to the wound and physical inactivity are other first aid measures to use.
F. Poisoning resulting from contact with toxic plants	There are numerous plants which cause a marked reaction on contact with human skin and may produce severe symptoms if eaten.	Show pictures and discuss some plants that have toxic effects upon humans. These could include: poison ivy, poison oak, poison sumac, poison parsley, buttercup,	It is unwise to believe that a person is immune to a given plant toxin. Individuals who have always been relatively insensitive to plant poisons (e.g., poison ivy) may suddenly become very

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		crowfoot, primrose, rue arnica, death camas, western monkshood, rosary pea, blue nightshade, black nightshade, and others.	sensitive to it.
1. first aid for contact with toxic plants	The objective of first aid for contact with toxic plants is to relieve the discomfort of the symptoms.	Discuss symptoms that might occur from contact with toxic plants. These might include redness, swelling, pain, fever, blisters, itching, etc. Use pamphlet,N. Y. State Department of Health, Poison Ivy. Poison ivy is a vine and usually grows among other plants and shrubs or on trees. It may be hard to identify. Here's what to look for: Three little leaflets make up one leaf, each leaflet is about three inches long, edges may be smooth or have little notches or teeth. The green leaves of summer turn red in the fall. In spring,small greenish-white flowers bloom in clusters. Clusters of white berries are borne each fall. Each berry	Washing the exposed area with soap and water helps remove the toxic substance. Soothing and cooling lotions help to relieve the discomfort.

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		is about the size of a raisin. An old superstition used to be that eating poison ivy would keep you from getting it. This is NOT true; you could become very ill if you do this. Keep the infected area very clean with soap and water. Never burn poison ivy to get rid of it. The smoke inhaled can be extremely dangerous. It must be destroyed by chemical means. If poison ivy cannot be cured in a reasonable time by bathing the effected area, etc., see your doctor. Have a child cut out a model of a poison ivy plant. Put it on the bulletin board.	

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G. Poisoning by toxic food substances	Food poisoning may result from eating plants or marine life that contain toxic substances or from foods that become contaminated through improper preservation.		
1. mushroom poisoning	Mushroom poisoning can be avoided by using only those obtained through commercial sources.	Discuss with pupils the differences between edible and poisonous mushrooms. Show pictures of the Amanita phalloides and Amanita muscaria mushrooms. See bibliography for textbooks containing pictures. There is no really sure way to identify mushrooms for eating purposes. Leave that to the experts who grow them.	Since mushroom poisoning is often very severe, people who gather their own mushrooms in the woods must be aware of the danger involved. There is no sure way in which poisonous varieties can be identified. The Amanita phalloides contains a toxin that liquefies tissue cells all over the body, especially the red blood cells. Fifty percent of the victims die. The Amanita muscaria contains the toxic drug muscarine which has a strong action on the nervous system. This plant is dangerous but causes death less frequently than the Amanita phalloides.

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a. symptoms	Mushroom poisoning causes severe digestive and systemic reactions.		There is acute abdominal pain, diarrhea, and vomiting. After 24 hours, the person may go into shock, have convulsions, and become comatose. Death occurs after several days.
b. emergency care	In case of mushroom poisoning, the physician should be called immediately.		First aid involves absolute bed rest, treatment for shock, and immediate summoning of a physician.
2. poisoning by fish and seafood	Ingestion of contaminated fish and seafood will produce serious digestive and systemic symptoms.	Discuss the symptoms that would be likely to occur from ingestion of contaminated fish products. These include: intense gastrointestinal symptoms, skin reactions, nervous system signs of headache and dizziness, and respiratory problems of swallowing and breathing.	Fish and seafood may become contaminated by bacterial contamination or putrefaction as the result of improper storage. Bacterial contamination and putrefaction are primary causes of poisoning. Mussel, clam, and oyster poisoning which result from the ingestion of poisonous plankton may produce paralysis from respiratory failure. The poison secreted by plankton is known as a mytilotoxin which is not destroyed by cooking. The problem occurs primarily on the Pacific coast between the months of June to October.

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			If there is any doubt at all about the edibleness of a particular fish, it should not be eaten under any circumstances.
	Emergency care consists of securing the physician immediately.		
3. poisoning by bacterial infection of food products	Under certain conditions specific bacteria invade foods causing them to be poisonous to humans.		
a. staphylococcus food poisoning	Staphylococcus is the most common type of food poisoning.	Discuss the symptoms which occur: nausea, vomiting, abdominal cramps, diarrhea, headache, fever, and shock, if the reaction is severe. Foods kept at room temperatures or in large containers in a refrigerator are frequently the cause of outbreaks of staphylococcus poisoning. Discuss.	Food handlers with staphylococcal skin infections are mainly responsible for its spread. The bacteria multiply in the food, producing an enterotoxin responsible for the symptoms of poisoning. The staphylococcus organism grows chiefly in custards, cream-filled pastry, milk, processed meat, and fish. Fatalities are rare and symptoms usually subside in a day.
b. Salmonella poisoning	Salmonellosis is a very serious infectious food poisoning that usually occurs in epidemics.	Discuss the symptoms which include chills, fever, vomiting, diarrhea, and abdominal pain.	It is due to the ingestion of foods contaminated with Salmonella organisms. The greatest source of human infection are poultry

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		Discuss the prevention of Salmonella food poisoning. Discuss why it is important for food handlers to be free of bacteriological infections. Eggs, which are a perishable food item, must always be refrigerated.	products, including chickens, ducks, turkeys, and eggs. Meats, cold cuts, frankfurters, fish, dairy products, and many vegetables, both cooked and uncooked may also be contaminated. Contamination occurs from the handling of the food by a carrier of the bacteria, who himself may not show any symptoms. The person should be kept at rest and given fluids as soon as nausea and vomiting subside. A physician should see the victim.
c. botulism	Botulism is a form of food poisoning that can be very serious.	Discuss the symptoms of botulism. Symptoms include stomach upset, dimness of vision followed by double vision, difficulty in talking and swallowing, and paralysis of the throat muscles resulting in the individual choking when he tries to swallow.	Botulism results from the ingestion of canned foods contaminated by botulinus spores. Home canned vegetables are especially likely to become contaminated unless they are sterilized in a pressure cooker. Canned foods which are softened, show bubbles, or have a rancid odor should not be used. More than 50 percent of the victims of botulism die. Death occurs from cardiac and respiratory failure.

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			Preserved foods in which the toxin is most commonly found include string beans, corn, spinach, olives, beets, asparagus, sea food, pork products, and beef. The disease occurs throughout the United States.
	Prompt medical care is essential in cases of botulism.	Discuss the prevention of botulism. Discuss the proper methods of canning foods. Have pupils write reports on such topics as "The Commercial Methods Used in the Canning of Foods," and "Laws Regulating the Preserving of Foods." Some stores continue to sell bent cans as a "special" for less money. If there is any air leak, botulism can occur so do not buy bent cans.	Botulism affects the respiratory, circulatory, and nervous systems. It causes death within three to seven days after infection. The person should be taken to a hospital where antitoxin can be given and artificial respiration can be continued as long as signs of life remain.
V. Traumatic Shock	Traumatic shock occurs as a state of depression of vital body functions resulting in circulatory failure. Traumatic shock should always be considered as a possible consequence of	Mention other types of shock: 1. electric shock: the concern of the first aider should be to rescue the victim without harm to himself. (See American Red Cross First Aid	Some distinction should be made regarding other types of shock; however, the first aider of this age group should not be expected to make the diagnosis required to provide certain types of first aid. The first aid

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	any serious accident or emotional event.	Manual.) Following rescue, artificial respiration may be necessary. 2. emotional shock: procedures would be the same as for traumatic shock. 3. anaphylactic shock: requires immediate medical attention. 4. insulin shock: results from a diabetic's need for sugar. If the condition is positively known, sugar could be administered. If there is any doubt whatsoever, the first aider should wait for medical advice.	procedures for traumatic shock should suffice for most emergencies that this age group would be expected to cope with.
	Signs of traumatic shock may not be immediately apparent.		Immediately following an accident or emotional event, the person may appear to be all right physically and emotionally only to have the impact of the event affect him seriously within a few minutes or hours.
	The first aider should be alert for symptoms of shock.		Major symptoms of shock are: 1. skin - cold, clammy, moist, pale

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			2. eyes - dilated pupils, glaring or staring 3. pulse - may vary, rapid and weak or absent 4. nausea - may be present
	The first aid objectives for prevention and reduction of shock are the same.	Discuss the first aid procedures for traumatic shock. Show a film or filmstrip on shock, such as the United States Department of Health, Education and Welfare Medical Self-Help Training filmstrip on Shock. Keep the person still, as comfortable as possible, and warm. Do not give any alcohol, once considered helpful. It is better not to give the victim any liquid or solids since this procedure can be very dangerous. Call for professional help as soon as possible.	First aid procedures for preventing and reducing the effects of shock are: 1. position - Keep the patient prone to favor circulation to the head and chest unless such a position makes breathing difficult. 2. preserve body heat - Do not add heat. 3. give fluids sparingly if there is no possibility that the patient may soon have to be operated upon. 4. carefully check for injuries that could contribute to the shock condition 5. do not give stimulants 6. manipulate the victim as little as possible

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VI. Burns and Other Conditions Caused by Abnormal Temperatures			
A. Burns	Burns are tissue injuries that may be mild or severe. Smoke inhalation can be as dangerous as a bad burn. Call for help so the person can be brought to a fresh air supply as soon as possible.	The American Red Cross film First Aid for Burns may be used. Fire is not a toy. It is a help to man and a danger....only to be used wisely and with great care and respect for its power. Look up and find out how fire changed the life of man. Put campfires out completely.	Burns are classified by degree according to depth or severity. Characteristics of burns: 1. First degree - skin surface reddens 2. Second degree - blisters form 3. Third degree - all layers of the skin are charred and burned. Scars will result.
1. causes	Burns may result from thermal heat, sunburn, or chemicals.		Thermal burns result from exposure to excessive heat; i.e.,stove water. Chemical burns may result from contact with strong acids, alkalies,or other corrosives. Cold water may be used to alleviate pain of first degree burns.
2. objectives	First aid objectives for burns are directed at relieving pain, preventing shock, and preventing infection.		Severely burned persons are in danger of going into shock for several weeks following the accident.

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			Exposure of burned skin surfaces to air causes severe pain and increases the chances of shock. Layers of cloth exclude the air.
3. procedures	First aid procedure for burns consist of covering the areas with sterile cloth to prevent air from reaching the burn.		The cloth should be as sterile as possible to prevent the introduction of germs into the exposed surfaces. Vaseline or other greasy substances should never be applied because the doctor must only remove them later (unless the burn is very small)
		Slight burns are best treated quickly with cold water to reduce skin temperature. If serious, call for help. Sterile gauze with a generous supply of petroleum jelly can be helpful for first degree burns only. People used to put butter on burns, but since much of our butter contains salt this only produces further irritation.	Cold creams or lotions may be helpful in alleviating first degree sunburn. Whenever blisters form, whether from burns or other causes, first aid should simply include covering them with dry, sterile dressings. First aid for burns of the eyes consists of washing the eyes with large volumes of water and seeking medical care.

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B. Frostbite	Frostbite occurs as the result of freezing of a body part.	Discuss symptoms of frostbite: 1. flushed skin before it occurs 2. white to yellowish gray glossy skin as it occurs 3. lack of pain 4. intense coldness and numbness	In cases of frostbite, it is important to avoid further tissue damage that could be caused by rubbing or massaging. The consequences could be tissue death (gangrene).
	First aid for frostbite consists of careful handling and gradual rewarming.	Discuss the danger of the old remedy of rubbing the frostbitten part with snow.	The frostbitten part should be rewarmed gradually by covering it in woolen material or immersing it in water at body temperature (90° - 100° F.)
C. Problems caused by excessive heat	Heat exhaustion and heat stroke are caused by exposure to excessive heat conditions.		Heat exhaustion is less severe than heat stroke. The patient may feel tired and exhibit the symptoms of shock. The temperature is usually within normal range. Removal from the heated area, fluids, and rest usually result in quick recovery.
	The two conditions are different in symptoms and severity.	Have students prepare charts to distinguish the symptoms and first aid for heat exhaustion and heat stroke.	
		Try to remove person from heat or to provide shade. Call for professional help.	Heat stroke is extremely dangerous. The patient becomes flushed, the temperature rises to 106° and above, the skin is hot and dry, and unconsciousness may ensue.

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			While awaiting medical care, the first aider should try to bring down the temperature by bathing the patient with alcohol or water. If conscious, the patient would profit by having fluids.
VII. Injuries to Bones, Muscles, and Joints			
A. Fracture	A fracture is a break in a bone.	Discuss causes and prevention of fractures.	
		Discuss types of fractures and the first aid problems involved with each type. 1. simple or closed - bone is bent or cracked; no open wound 2. compound or open - bone ends protrude through break in the skin	General symptoms would include pain and tenderness at the site of the break, loss of use of the extremity containing the break, swelling and deformity of the broken part, a grating sensation in the broken area, discoloration of the skin, shortening of the limb, and the presence of a wound with a bone visible or projecting through. Some types of simple fractures may have no obvious symptoms.
	Objectives of first aid are determined by the nature of the fracture.	The McGraw-Hill First Aid Series filmstrip on Bone, Muscle and Joint	The major objective with a fracture is to immobilize the broken ends of

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		Injuries may be shown at the beginning of this unit. The American Red Cross film, First Aid for Injuries to Bones, Joints and Muscles, may be used.	the bone and the adjacent joints. If a wound is associated with the fracture, additional consideration must be given to controlling bleeding and preventing infection.
		Discuss items that could be used in an emergency to immobilize a fracture (magazines, pillows, blankets).	Immobilization can be achieved with many types of articles commonly found around the home.
		Keep person as warm and comfortable as possible, and call for professional help immediately.	A splint consists of material that can be applied to a broken limb to make it rigid. The splint should immobilize the joint above and below the broken bone. Proper splinting relieves pain and often lessens shock. Splints also help to prevent further injury. The splint should be used by an experienced person only.
B. Sprain	A sprain is an injury where there is damage done to the ligaments surrounding a joint without the displacement of bones.	Discuss the causes of sprains and the kinds of accidents that result in this kind of injury. Have pupils tell about their experiences with sprains. Discuss the symptoms of a sprain.	It is caused by a sudden twist or wrench of a joint, as when the foot is unexpectedly caught in an obstruction while walking or running.

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			Symptoms include pain at the site of the sprain, swelling, loss of function in the affected part, black and blue discoloration, and tenderness in the area of the sprain.
			The possibility of a fracture should be suspected in all sprains since a sprain cannot be distinguished from a fracture except by X-ray.
			These injuries frequently are associated with small chip fractures.
	The objective of first aid for a sprain is to reduce the pain caused by swelling of the tissues.		Cold application should be applied the first 24 hours. The sprained part should be immobilized and rested.
C. Strain	A strain is an over-stretching or tearing of a muscle or a tendon.	Discuss the causes of strains and the kinds of accidents that produce this kind of injury. Have pupils tell about their experiences with strains.	They are frequently caused by lifting heavy objects improperly. Violent, unexpected movements also produce strains. The back muscles are frequently involved.
		A strain can be greatly helped by a good hot bath or shower.	Pain on movement is the primary symptom. Movement is limited due to the pain.

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			Stiffness may also be present.
	The objective of first aid for a strain is to allow the injured part to repair through rest.	Discuss prevention of strains through proper lifting, carrying, etc.	The injured part should be kept at rest and heat should be applied.
		Show film How to Avoid Muscle Strains.	Lifting should be done with the muscles of the legs and not the back. The lift should be done with the back straight, the feet firmly planted on the ground, and the knees bent. The lift is made by straightening the legs so that the weight is distributed evenly along the strong, bony structures of the vertebral column and pelvis, rather than borne by the back muscles alone.
D. Dislocations	A dislocation is an injury where there is damage done to the ligaments surrounding a joint with a temporary removal of a bone from its normal position.	Discuss the causes of dislocations and examples of accidents that would cause this kind of injury. Discuss the role of athletics in producing dislocations.	Dislocations occur as a result of a twisting force applied to a bone near a joint. Falls, blows, and sudden spastic muscular contractions frequently produce dislocations.
		After completing the materials on fractures, sprains, and dislocations, devise accident problems involving these injuries	There is normally an unnatural shape of the affected part, severe pain in the joint, rigidity and loss of

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		and have the pupils provide the needed first aid. Example: An elderly man is found lying on the ground in his yard. His left leg is twisted under his right leg at an odd angle. Blood is seeping through his left trouser leg. A ladder with a broken rung is found nearby. What would you do as a first aider?	function, and marked swelling.
	The injured part should be properly immobilized and the person transported to a hospital.	Keep person warm. Do not move injured person. If he is unconscious, try to keep his head on the side so that his tongue does not fall back in his mouth to choke him. Call for professional help immediately.	
	Who do you call in an emergency?	Make a list as a review including: 1. parent or nearest dependable adult 2. family doctor 3. police 4. fire department 5. poison control center 6. other, due to area and appropriateness to group	

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		Plan for a visit from or to one of these agencies to discuss what its role is in emergency care.	

These supplementary aids have not been evaluated. The list is appended for teacher convenience only and teachers in the field are requested to critically evaluate the materials and to forward their comments to the Curriculum Development Center.

FIRST AID AND SURVIVAL EDUCATION

Grades 4-6

Multimedia Resources

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How our schools teach home nursing and first aid. Vol.XXIII. No. 3. 3052. March 1952.
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AUDIOVISUAL AIDS

FILMS

American National Red Cross. (consult your local chapter for these films)
- Artificial respiration
- Checking for injuries
- First aid for bones, joints and muscles
- First aid for burns
- First aid for shock
- First aid: Part I and II
- Poisoning
- Target: babies and children
- The how and why of first aid
- Wounds
- Your breath can save a life

Breath of life. Adams Productions, Inc., Box 1048. Santa Monica, California. 90406. 27 min. color.

Films (Available from Film Library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208.
- Accidentally yours. 15 min. color.
- Breath of life. 16 min. color.
- Children at play with poison. 10 min. color.
- Danger--high voltage. 15 min. color.
- Donald's fire survival plan. 11 min. color.
- Electrical safety in the home. 13 min. color.

Film library, New York State Department of Health, 84 Holland Avenue, Albany, New York 12208.
- Fires and wires. 21 min. color
- First aid now. 26 min. color.
- First aid on the spot. 10 min. black and white.
- Hands of action. 42 min. black and white.
- How to avoid muscle strain. 15 min. black and white.

Life in your hands. 11 min. black and white.
One day's poison. 27 min. black and white.
Poison in the house. 10 min. color.
Pulse of life. 27 min. color.
Rescue breathing. 22 min. black and white.
To save a life. 14 min. color.
Water rescue. 12 min. color.

FILMSTRIPS (Available from McGraw-Hill Films. First aid series, Text Film Department, 330 W. 42nd Street, New York 36, New York)

Artificial respiration.
First aid.
First aid - bleeding and shock.
First aid - bone, muscle and joint injuries.
First aid - wounds.
Five basic steps in first aid.
Your responsibility in first aid.

FILMSTRIPS - SOUND (Available from Metropolitan Life Insurance Company)

Louis Pasteur. The germ theory and the history of immunization.
The history of nursing. Florence Nightingale and the importance of cleanliness.
Walter Reed. History of work with yellow fever, experimentation and control.

SLIDES

Keep out of the reach of children. Food and Drug Administration, Visual Service Branch. Bureau of Education and Voluntary Compliance, Washington, D. C. 20204.

CHARTS AND POSTERS

Flip Chart. Self-help and neighbor help for the injured course. 18 1/2 x 28 1/2 in. 102pp. color. English and Spanish available. New York State Department of Health. New York State Civil Defense Department. 1963.

Flip Chart. Training course for medical aides in aid stations. 18 1/2 x 28 1/2 in. 100pp. color. New York State Department of Health. 84 Holland Avenue. Albany, New York 12208. 1964.

Safety guides for upper elementary grades. ARC 1447. 8 1/2 x 11 in. set of nine. Consult your local American National Red Cross.

MANNEQUINS

Resusci Anne & Resusci Andy. Life size for use in resuscitation training. Guardian Safety Equipment Company, 37 East 21st Street, Linden, New Jersey 07037. Hygienic face shields. Available from Laerdal Medical Corporation, 136 Marbledale Road, Tuckahoe, New York 10707.

Respiration. Half-bodied mannequin for use in resuscitation training. Model F., including the external cardiac resuscitation unit, shirt, fibre carrying case, 100 face shields. Additional face shields available. Alderson Research Laboratories, Inc. 729. Canal Street, Stamford, Connecticut. Approx. $198.00.

Resuse - Kate. 24 in. full-bodied mannequin of a child for use in resuscitation training. No. 110. Simulaids. Woodstock, New York 12498. Approx. $22.50.

Resusci Baby. Lifelike normal sized baby mannequin for training in mouth-to-mouth resuscitation and cardiac-pulmonary resuscitation of infants. Further information write: Laerdal Medical Corporation, 136 Marbledale Road, Tuckahoe, New York 10707.

Tammi. Life size mannequin for use in teaching mouth-to-mouth resuscitation and external cardiac compression. Further information write: Uni/Flex Medical Supply Company, Rockford, Illinois 61101

Anatomic Anne. Training mannequin that visually shows circulation of blood and inflation of lungs during the correct performance of cardiopulmonary resuscitation. Further information write: Laerdal Medical Corporation, 136 Marbledale Road, Tuckahoe, New York 10707.

TEACHING KITS

Medical self-help instructors kit. United States Department of Defense and United States Department of Health, Education and Welfare.

- Health survival instructor's guide.
- Course introduction booklet.
- 11 lesson plan books.
- Family guide-emergency health care manual.
- 11 35 mm filmstrips.
- Examination books.
- Grading templates.

11 16 mm sound-color films.
Film. When disaster strikes. narrated by Danny Thomas. 13 1/2 min. color.

Consult New York State Department of Health, 84 Holland Avenue, Albany, New York 12208.
No charge for kit or student supplies.

PAMPHLETS (Available from New York State Department of Health, 84 Holland Avenue, Albany, New York 12208.)
Poison Ivy. 1952.
The fly. rev. 1959.
The mosquito. 1954.